Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method of normalizing an output of a receiver, the method comprising:

determining a normalization factor using a determined variance of multiple access interference; and

applying the normalization factor to the output of the receiver.

2. (Previously Presented) The method of Claim 1, wherein applying the normalization factor comprises normalizing each symbol output from the receiver with a normalization factor that is independent of normalization factors of previous symbols.

3. (Previously Presented) The method of Claim 1, further comprising obtaining a metric correction factor using the normalization factor.

4. (Previously Presented) The method of Claim 3, further comprising providing the metric correction factor to a channel decoder.

5. (Previously Presented) The method of Claim 1, wherein determining the normalization factor comprises determining a log likelihood ratio (LLR) according to the following equation:

$$LLR(n) = -\frac{2r(n)g(n)}{\sigma_{\mathrm{T}}^{2}(n)}$$

where:

r(n) is the detector output of the n^{th} symbol;

g(n) is the time varying gain associated with the desired symbol; and

$\sigma_{\mathrm{T}}^{2}(n)$ is the total noise variance.

6. (Previously Presented) The method of Claim 5, further comprising determining the variance of multiple access interference analytically.

7. (Previously Presented) The method of Claim 5, further comprising determining the variance of multiple access interference empirically.

8. (Original) The method of Claim 1, further comprising employing multiuser detection to obtain the output of the receiver.

9. (Previously Presented) A receiver comprising:

a detector to receive transmitted information and provides one or more output symbols based on the transmitted information;

a metric correction section to normalize the one or more output symbols to obtain ~~a~~ one or more metrics, the normalization based on a determined variance of multiple access interference; and

a channel decoder to receive the one or more metrics from the metric correction section, the channel decoder to utilize the one or more metrics to decode the transmitted information.

10. (Previously Presented) The receiver of Claim 9, wherein the detector comprises a multiuser detector.

11. (Previously Presented) The receiver of Claim 9, wherein the detector comprises a rake detector.

12. (Previously Presented) The receiver of Claim 9, wherein the metric is based on a log likelihood ratio.

13. (Previously Presented) The receiver of Claim 9, wherein the metric correction section determines one or more normalization factors to apply to the one or more output symbols of the detector.

14. (Previously Presented) The receiver of Claim 9, wherein the detector comprises a long code CDMA detector.

15. (Previously Presented) The receiver of Claim 14, wherein the metric correction section is to normalize each output symbol on a symbol by symbol basis with a normalization factor that is independent of the normalization factors of previous symbols.

16. (Previously Presented) The receiver of Claim 9, wherein the metric is based on a log likelihood ratio for BPSK signaling that is determined from the following equation:

$$LLR(n) = -\frac{2r(n)g(n)}{\sigma_{\mathrm{T}}^2(n)}$$

where:

r(n) is the detector output of the n^{th} symbol;

g(n) is the time varying gain associated with the desired symbol; and

$\sigma_{\mathrm{T}}^2(n)$ is the total noise variance.

17. (Previously Presented) The receiver of Claim 16, wherein the variance of the multiple access interference is determined analytically.

18. (Previously Presented) The receiver of Claim 16, wherein the variance of the multiple access interference is determined empirically.

19. (Currently Amended) A method comprising:

receiving one or more output symbols from a detector;

determining a normalization factor for each of the one or more output symbols, each normalization factor being independent of normalization factors for previous output symbols, wherein the normalization factor is determined based on the following equation:

$$LLR(n) = -\frac{2r(n)g(n)}{\sigma_{\mathrm{T}}^2(n)}$$

where:

r(n) is the detector output of the n^{th} symbol;

g(n) is the time varying gain associated with the desired symbol; and

$\sigma_{\mathrm{T}}^2(n)$ is the total noise variance;

multiplying each of the one or more output symbols by the corresponding normalization factor to obtain a metric correction; and

providing the metric correction for each symbol to a channel decoder.

20. (Original) The method of Claim 19, further comprising decoding a transmission using the metric correction.

21. (Canceled)

22. (Currently Amended) The method of Claim [[21]] 19, further comprising determining a variance of a level of multiple access interference analytically.

23. (Currently Amended) The method of Claim [[21]] 19, further comprising determining a variance of a level of multiple access interference empirically.

24. (Previously Presented) A method comprising:

receiving a symbol;

determining a normalization factor for the symbol using a determined variance in a level of multiple access interference for the symbol;

normalizing the symbol with the normalization factor; and

providing the normalized symbol to a channel decoder.

25. (Previously Presented) The method of claim 24, wherein determining the normalization factor comprises:

determining a time varying gain associated with a desired symbol; and

determining the variance in the level of multiple access interference for the symbol.

26. (Previously Presented) The method of claim 25, wherein determining the normalization factor further comprises determining the variance in a noise term that is independent of the variance in the level of multiple access interference.

27. (Previously Presented) The method of claim 24, wherein normalizing the symbol with the normalization factor comprises multiplying the symbol by a log likelihood ratio.

28. (Previously Presented) The method of claim 27, wherein multiplying the symbol by the log likelihood ratio comprises multiplying the symbol by $LLR(n) = -\frac{2r(n)g(n)}{\sigma_{\mathrm{T}}^2(n)}$

where:

r(n) is an output of the symbol;

g(n) is the time varying gain associated with the desired symbol; and

$\sigma_{\mathrm{T}}^2(n)$ is the total noise variance.